

REMARKS/ARGUMENTS

Claims 1-20 are pending in this application. By this Amendment, the title, drawings, abstract, specification and claims 1-11 are amended, and claims 12-20 are added. The title, drawings, abstract, specification and claims are amended for clarification purposes only. No new matter is added. Support for the claims can be found throughout the specification, including the original claims and the drawings. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

I. Informalities

The Office Action objects to the title, specification and claims 3 and 9 due to various informalities. It is respectfully submitted that the amendments to the title, specification and claims 3 and 9 submitted herewith are responsive to the Examiner's comments, and thus the objections should be withdrawn.

II. Rejection Under 35 U.S.C. § 112

The Office Action rejects claims 6-11 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. It is respectfully submitted that the amendments to claim 6 are responsive to the Examiner's comments, and that claims 6-11 meet the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, the rejection should be withdrawn.

It is noted that claims 9-11 are not otherwise rejected over art. Thus, it is assumed, for purposes of this reply, that claims 9-11 define patentable subject matter.

III. Rejection Under 35 U.S.C. § 102(b)

The Office Action rejects claims 1 and 2 under 35 U.S.C. § 102(b) over European Patent No. 0795292 to Fumagalli (hereinafter “Fumagalli”). The rejection is respectfully traversed.

Independent claim 1 is directed to a dishwasher, including a valve rotatably installed at a connecting portion between the supply pipe and the upper and lower pipes, wherein the valve selectively opens/closes the supply pipe and the upper and lower pipes. The dishwasher also includes a driver that determines a first position of the valve and turns the valve to a second based on the determined first position. Fumagalli neither discloses nor suggests at least such features, or the claimed combination of features.

Fumagalli discloses a dishwasher including a pair of rotating spray devices 11 and 12 positioned in a wash chamber 1. Water collected in a basin at the bottom of the chamber 1 is pumped to the spray devices 11, 12 by a pump 4. The flow of water to the spray devices 11, 12 is controlled by a diverting unit 6, which Fumagalli discloses may be a rotating cylinder type unit (see column 4, lines 9-10 of Fumagalli). Water is supplied from the pump 4 through a duct 47 to two separate manifolds 17 and 18 formed in the lower spray device 11, or, through a duct 48 to two separate pipes 55 and 56 leading to two manifolds 17 and 18, respectively, of the upper spray device 12.

Fumagalli simply discloses that the diverting unit 6 employs some type of rotatable cylinder driven by a motor 7. Although this motor 7 is likely used to move some element within the diverting unit 6 to adjust a distribution of incoming water, Fumagalli neither discloses nor

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suggests that the diverting unit 6 and/or driver 7 are capable of determining a current position of any element within the diverting unit 6 (such as, for example a valve) at any point during the performance of a particular wash cycle. Further, Fumagalli necessarily neither discloses nor suggests that the diverting unit 6 and/or driver 7 turn this unidentified element to a new position based on such a determination of the current position. Thus, Fumagalli neither discloses nor suggests a driver that determines a first position of a valve and turns the valve to a second position based on the determined first position, as recited in independent claim 1.

Accordingly, it is respectfully submitted that independent claim 1 is not anticipated by Fumagalli, and thus the rejection of independent claim 1 under 35 U.S.C. § 102(b) over Fumagalli should be withdrawn. Dependent claim 2 is allowable at least for the reasons set forth above with respect to independent claim 1, from which it depends, as well as for its added features.

IV. Rejection Under 35 U.S.C. §103(a)

The Office Action rejects claims 1-8 under 35 U.S.C. § 103(a) over U.S. Patent No. 2,597,359 to McDonald et al. (hereinafter "McDonald"). The rejection is respectfully traversed.

The features of independent claim 1 are set forth above. McDonald neither discloses nor suggests the features recited in independent claim 1, let alone the claimed combination of features.

McDonald discloses a dishwasher that includes upper and lower spray pipes 10 and 12 positioned in a chamber 27. A pump 20 pumps water collected in a return chamber 38 up

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through a supply pipe 18 and into an upper manifold 14 or a lower manifold 16 to supply water to the upper or lower spray pipes 10, 12. The flow of water to the upper and lower spray pipes 10, 12 is controlled by a valve 52 positioned between the supply pipe 18 and the lower manifold 16. A portion of hot water from an external source flows through an inlet pipe 58 and into the return chamber 38. Based on a related cycle control, another portion of that water goes through a conduit 62 controlled by a valve 60 to pressurize a cylinder 56 and piston 54, and the reciprocation of the piston 54 in the cylinder 56 provides for alternating operation of the upper and lower spray devices 10, 12 through the operation of the valve 52.

More specifically, when there is little/no water at an upper end of the cylinder 56, the piston 54 is at rest in the cylinder 56, and the valve 52 blocks the portion of the supply pipe 18 leading to the upper manifold 14, thus supplying water only to the lower spray device 12, as shown in Figure 3 of McDonald. When water flows down through the conduit 62 and pressurizes the cylinder 56, the piston 54 and a rod 72 extending from the piston 54 are forced downward, thus also moving a link 74 coupled to the rod 72 downward, and rotating an arm 76 rotatably coupled to the valve 52. The downward movement of the piston 54 and rod 72 causes the valve 52 to move from the position shown in Figure 3 to a position in which the valve 52 blocks the portion of the supply pipe 18 leading to the lower manifold 16, thus supplying water only to the upper spray device 10.

The automated wash cycle is controlled by a cam shaft 78 and gears 80 driven by a motor 82. When the motor 82 is engaged, the shaft 78 and a plurality of cams 84, 88, 94 coupled

thereto all rotate. During rotation, a high part of the cam 84 (which extends more than $\frac{3}{4}$ of the cam's circumference) closes a switch arm 86 for a predetermined amount of time, thus operating the pump 20 for a predetermined amount of time. As the cam 84 rotates, a low part of the cam 84 is eventually positioned across from the switch arm 86, thus breaking contact between the cam 84 and the switch arm 86. This loss of contact turns off pump 20 until contact is established between the second cam 88 and a switch arm 90. Rotation of the third cam 94 actuates a switch arm 96 that operates a valve 64 to control water flow from the inlet pipe 58 to upper and lower ends of the cylinder 56. The cam 94 has five high portions that energize a solenoid 98 for five six-second periods within the first 60 seconds of its rotation to alternate wash spray between the upper and lower spray pipes 10, 12.

A position of the valve 52 (compared in the Office Action to the claimed valve) is established based on a position of the piston 54 in the cylinder 56, which is, in turn, controlled by the rotation of the third cam 94 and the subsequent flow of water through the valve 64 and conduit 62 to the upper or lower end of the cylinder 56. McDonald neither discloses nor suggests that the cylinder 56, piston 54 and motor 82 (collectively compared in the Office Action to the claimed driver) are capable of determining a current position of the valve 52 at any point during the performance of a particular wash cycle. Further, McDonald necessarily neither discloses nor suggests that the cylinder 56, piston 54 and motor 82 turn the valve 52 to a new position based on such a determination of the current position. Thus, McDonald neither

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discloses nor suggests a driver that determines a first position of a valve and turns the valve to a second position based on the determined first position, as recited in independent claim 1.

Additionally, it is respectfully submitted that it would not have been obvious to modify the cylinder 56, piston 54 and motor 82 disclosed by McDonald to include this type of capability.

Such a capability would require significant additional structure in the vicinity of the valve 52, as well as some type of structure for providing feedback to the motor 82. This would also require that the motor 82 have the capability to recognize a particular position of the valve 52 based on such feedback, and to move the valve 52 to a new position based on such feedback, thus adding unnecessary complexity and cost to the motor 82, and to McDonald's dishwasher as a whole.

Accordingly, it is respectfully submitted that independent claim 1 is allowable over McDonald, and thus the rejection of independent claim 1 under 35 U.S.C. § 103(a) should be withdrawn. Dependent claims 2-8 are allowable at least for the reasons set forth above with respect to independent claim 1, from which they depend, as well as for their added features.

V. New Claims 12-20

New claims 12-20 are added to the application. It is respectfully submitted that new claims 12-20 also define over the applied prior art, and meet the requirements of 35 U.S.C. § 112.

VI. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes

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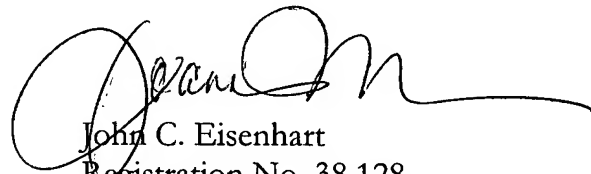
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would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Joanna K. Mason**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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